ABSTRACT

OBJECTIVE

Red cell distribution width (RDW) which is reported as part of complete blood count in routine clinical practice is a measure of variability in size of the erythrocytes in the circulation. It is a novel predictor of mortality both in unselected populations and in some selected group of patients. We aimed to search whether RDW values differ between the healthy population and the patients with pre-hypertension and hypertension who are otherwise healthy, considering the widely accepted role of RDW as a prognostic marker especially for mortality.

PATIENTS AND METHODS

Patients who were diagnosed with pre-hypertension or hypertension for the first time according to the Joint National Committee (JNC) 7 criteria and otherwise healthy were enrolled to the study. Fifty patients with hypertension, thirty patients with pre-hypertension and twenty healthy controls participated in the study. Complete blood count, biochemistry and erythrocyte sedimentation rates were measured by standard methods. Hemoglobin, white blood cell count, mean corpuscular volume, platelet count and RDW were recorded.

RESULTS:

After adjustment for age, hemoglobin level, presence of anemia, , mean RDW values were 45.5464±2.23, 47.9 ± 3.47 , and 40.05 ± 1.40 in pre-hypertensive,

hypertensive and control groups, respectively ($p < 0.05$). Systolic and diastolic blood pressures were strongly correlated with RDW ($p < 0.01$).

CONCLUSION:

RDW is higher in pre-hypertensive and hypertensive patients compared with healthy controls independently of age, inflammatory status and anemia. Higher RDW values are strongly correlated with higher systolic and diastolic blood pressures.

KEY WORDS – RDW, hypertension, pre-hypertension, CBC, p value